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February 26, 2015

Docket Nos.: 50-321  
50-366

NL-15-0244

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant – Units 1 and 2  
Fourth Six-Month Status Report of the Implementation of the  
Requirements of the Commission Order with Regard to  
Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049)

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012.
2. NRC Interim Staff Guidance JLD-ISG-2012-01, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, Revision 0, dated August 29, 2012.
3. NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0, dated August 2012.
4. Edwin I. Hatch Nuclear Plant - Units 1 and 2 Overall Integrated Plan in Response to Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049), dated February 27, 2013.
5. Edwin I. Hatch Nuclear Plant- Units 1 and 2 Third Six-Month Status Report of the Implementation of the Requirements of the Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049) dated August 26, 2014, including Enclosure 2 – Hatch Units 1&2 Mitigation Strategies (FLEX) Overall Integrated Implementation Plan (OIP), Revision 4.

Ladies and Gentlemen:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to Southern Nuclear Operating Company. Reference 1 was immediately effective and directs the Edwin I. Hatch Nuclear Plant - Units 1 and 2 (HNP) to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C.1.a of Reference 1. Reference 2 endorses industry guidance document NEI 12-06 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the initial HNP overall integrated plan (OIP). A revised OIP was submitted with the fall 2014 six-month update (Reference 5).

Reference 1 requires submission of a status report at six-month intervals following the content of the status reports. The purpose of this letter is to provide the fourth six-month status report pursuant to Section IV, Condition C.2, of Reference 1, delineating progress made in implementing the requirements of Reference 1. The enclosed report provides an update of milestone accomplishments and schedule adjustments since the last status report.

This letter contains no new NRC commitments. If you have any questions, please contact John Giddens at 205.992.7924.

Mr. C. R. Pierce states he is the Regulatory Affairs Director for Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and, to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,



C. R. Pierce  
Regulatory Affairs Director

CRP/JMG/GLS

Sworn to and subscribed before me this 26 day of February, 2015.

  
Notary Public

My commission expires: 10-8-2017

Enclosure: Edwin I. Hatch Nuclear Plant - Units 1 and 2 Fourth Six-Month Status Report Regarding Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049)

cc: Southern Nuclear Operating Company

Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. D. G. Bost, Executive Vice President & Chief Nuclear Officer  
Mr. D. R. Vineyard, Vice President – Hatch  
Mr. M. D. Meiers, Vice President – Regulatory Affairs  
Mr. B. J. Adams, Vice President – Engineering  
Mr. D. R. Madison, Vice President – Fleet Operations  
Mr. G. L. Johnson, Regulatory Affairs Manager – Hatch  
RType: CHA02.004

U. S. Nuclear Regulatory Commission

Mr. W. M. Dean, Director of the Office of Nuclear Reactor Regulations  
Mr. V. M. McCree, Regional Administrator  
Mr. R. E. Martin, NRR Senior Project Manager – Hatch  
Mr. D. H. Hardage, Senior Resident Inspector – Hatch  
Ms. J. A. Kratchman, NRR/JLD/PMB  
Mr. E. E. Bowman, NRR/DPR/PGCB

State of Georgia

Mr. J. H. Turner, Director – Environmental Protection Division

**Edwin I. Hatch Nuclear Plant – Units 1 and 2  
Fourth Six-Month Status Report of the Implementation of the  
Requirements of the Commission Order with Regard to  
Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049)**

**Enclosure**

**Edwin I. Hatch Nuclear Plant – Units 1 and 2  
Fourth Six-Month Status Report Regarding Mitigation Strategies for  
Beyond-Design-Basis External Events (EA-12-049)**

**Edwin I. Hatch Nuclear Plant – Units 1 and 2  
 Fourth Six-Month Status Report Regarding Mitigation Strategies for  
Beyond-Design-Basis External Events (EA-12-049)**

**1 Introduction**

Edwin I. Hatch Nuclear Plant - Units 1 and 2 developed an Overall Integrated Plan (OIP) (Reference 1 of this enclosure), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. Reference 5 of this enclosure provided a revised OIP in fall 2014. This enclosure provides an update of milestone accomplishments since submittal of the last status report, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

**2 Milestone Accomplishments**

In addition to the submittal of status reports, the following milestone(s) directly related to FLEX implementation have been completed since the previous 6-month update, and are current as of December 31, 2014:

- Perform Staffing Analysis (Phase 2)

**3 Milestone Schedule Status**

The following provides an update to Attachment 2 of the Overall Integrated Plan (Reference 5). The dates are planning dates subject to change as design and implementation details are developed.

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Submit 60 Day Status Report	Oct 2012	Complete	N/A
Submit Overall Integrated Plan	Feb 2013	Complete	N/A
Submit 6 Month Status Report	Aug 2013	Complete	N/A
Submit 6 Month Status Report	Feb 2014	Complete	N/A
Initiate Phase 2 Equipment	Jun 2014	Complete	N/A
Submit 6 Month Status Report	Aug 2014	Complete	N/A
Perform Staffing Analysis (Phase 2)	Oct 2014	Complete	N/A
Submit 6 Month Status Report	Feb 2015	Complete	N/A
Unit 2 Implementation Outage **	Mar 2015	Not Started	
Develop Modifications – Unit 2	Apr 2015	In Progress	
Develop Strategies (Hatch Response Plan)	Jun 2015	In Progress	
Develop Modifications – Unit 1	Aug 2015	In Progress	
Submit 6 Month Status Report	Aug 2015	Not Started	
Develop Operational Procedure	Sep 2015	In Progress	
Create Maintenance Procedures	Nov 2015	In Progress	
Develop Training Material	Nov 2015	In Progress	
Submit 6 Month Status Report	Feb 2016	Not Started	
Phase 2 Equipment Procurement	Mar 2016	In Progress	
Unit 1 Implementation Outage *	Mar 2016	Not Started	
Issue FSGs	Apr 2016	Not Started	
Implement Training	Apr 2016	In Progress	
Unit 1 Walk-throughs	Apr 2016	Not Started	
Submit 6 Month Status Report	Aug 2016	Not Started	

Enclosure to NL-15-0244  
 Fourth Six-Month Status Report of FLEX Implementation

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Unit 2 Walk-throughs	Dec 2016	Not Started	
Unit 2 Implement Non-Outage Mods **	Dec 2016	In Progress	
Submit Completion Report	Dec 2016	Not Started	

\* Full compliance after second listed refueling outage

\*\* Full compliance by 12/31/2016 since second refueling outage is after 12/31/2016

#### 4 Changes to Compliance Method

There are no changes to the compliance method as documented in the Overall Integrated Plan (Reference 5).

#### 5 Need for Relief/Relaxation and Basis for the Relief/Relaxation

Edwin I. Hatch Nuclear Plant - Units 1 and 2 expect to comply with the order implementation date and no relief/relaxation is required at this time.

#### 6 Open Items from Overall Integrated Plan and Interim Staff Evaluation

The following tables provide a summary and status of any open items documented in the Overall Integrated Plan.

Overall Integrated Plan Open Item	Status
1. Structure, content and details of the Hatch Response Plan will be determined.	SAFER Team developing Pilot Response Plan

Interim Staff Evaluation Open Items	Status
ISE was issued on February 27, 2014 (ML13364A202) with no Open Items.	N/A

#### 7 Potential Staff Evaluation Impacts

The NRC issued an Interim Staff Evaluation (ISE) for HNP (Reference 3) with no Open Items. The ISE states that, "the NRC concludes that the licensee has provided sufficient information to determine that there is reasonable assurance that the plan, when properly implemented, will meet the requirements of Order EA-12-049 at the Edwin I. Hatch Nuclear Plant, Units 1 and 2."

## 8 References

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. Edwin I. Hatch Nuclear Plant - Units 1 and 2 Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 27, 2013.
2. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012.
3. Edwin I Hatch Nuclear Plant, Units 1 and 2 – Interim Staff Evaluation Related to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC NOS. MF0712 and MF0713).
4. Edwin I. Hatch Nuclear Plant - Units 1 and 2 Response to Request for Information Pursuant to Title 10 CFR 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the NTF Review of Insights from the Fukushima Daiichi Accident, dated March 12, 2012, providing the Hatch Phase 2 On-Shift Staffing Analysis report sent October 9, 2014.
5. Edwin I. Hatch Nuclear Plant- Units 1 and 2 Third Six-Month Status Report of the Implementation of the Requirements of the Commission Order with Regard to Mitigation Strategies for Beyond-Design-Basis External Events (EA-12-049) dated August 26, 2014, including Enclosure 2 – Hatch Units 1 & 2 Mitigation Strategies (FLEX) Overall Integrated Implementation Plan (OIP), Revision 4.

## 9 Other Additional Information

The following information provides clarity or corrections to the Overall Integrated Plan but does not constitute a change in strategy:

1. A more recent calculation performed for the Main Control Room Heat-up concludes that, with no mitigating actions, the temperature in the MCR will exceed 110°F in 9 hours, rather than 3.4 hours as stated in OIP Revision 4. Taking into account Phase 1 actions to open doors, however, the MCR will not exceed 110°F until after 12 hours, not 10 hours as stated in OIP Revision 4. Therefore, using the strategies as described in the OIP, the temperature in the MCR will not exceed 110°F for the duration of the coping period.
2. The connection to the FLEX pump at the RHRSW piping is a permanent hose connection, not flanged as stated in the OIP Revision 4.
3. Current analysis of the pressure and flow requirements of the FLEX pump include the most limiting case for SFP cooling utilizing the spray monitor. According to the NEI 12-06 guide, a 250 gpm flow rate is required for SFP spray. The required head at this flow rate is 462 ft (200 psia), not 315 ft (135 psia) as stated in OIP Revision 4.
4. The station battery rooms have been evaluated for heat loads and the current analysis shows that temperatures will not exceed the equipment qualification temperature of 122°F for the duration of the coping period. The OIP Revision 4 previously indicated that no evaluation was necessary.
5. Current analysis for the generation of hydrogen in the battery rooms following an ELAP indicates that the time at which the concentration of hydrogen exceeds 2%, with no ventilation, will not occur until after 72 hours. The OIP Revision 4 previously stated that this would occur in 2.5 days.